Iowa Department of Natural Resources
Environmental Protection Commission

ITEM **6** **DECISION**

TOPIC **Nonpoint Source Pollution Control Project Contracts**

Commission approval is requested for the following 9 contracts for nonpoint source (NPS) pollution control projects. The total amount of the contracts is $1,865,000.

The funds for these contracts will come from the FFY2007 Section 319 grant. This EPA grant is awarded specifically for these nonpoint source pollution control projects. Funding from other state and federal programs is also being used to support many of these projects. Most of these projects are multiple year projects and Commission approval is being sought for the entire project periods.

The Section 319 funds to be provided during the entire project period, project descriptions, and the activities supported with the Section 319 funds are provided below.

Contracts with the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation (IDALS/DSC):

- **Development and Planning Assistance Mini Grants Program for Watershed Projects, $200,000--**This contract will provide for a $200,000 match with DSC for mini grant funds to support the development and planning of watershed projects by Soil and Water Conservation Districts (SWCDs) and other local watershed groups using the nine-step watershed planning protocol jointly developed in 2006 by DNR, DSC and the Natural Resources Conservation Service (NRCS). Applications are taken on a continuing basis and selections are made quarterly by a joint review committee made up of representatives from all three partner organizations. Whereas the previous grant program sponsored by DSC was limited to $10,000 grants, the new program does not have a predetermined award limit. Rather, the needs of each project are assessed and a grant award is made to ensure adequate resources are available to ensure local commitment to follow and complete the nine-step planning protocol.

- **Mink Creek Watershed Project, Fayette County, $100,000--**This contract will support a one-year extension of an existing project sponsored by the Fayette SWCD. Mink Creek is a coldwater "put and take" trout stream, with a 12,348-acre watershed, located in northeast Iowa. The mouth of Mink Creek lies just upstream of an impaired segment of the Volga River. The goal of the original project was to improve the water quality of Mink Creek and establish a permanent trout population in the stream. Iowa DNR Fisheries biologists recommend continuing existing project activities to reduce sediment and nutrient loading to the stream. Pre-project sheet and rill erosion estimates showed an annual soil loss of 52,237 tons per year and sediment delivery to the creek of 12,994 tons per year in the watershed.

For Best Management Practices (BMPs) installed in the watershed to date, sediment delivery has been reduced approximately 20% The proposed BMPs for this project extension are projected to result in an additional reduction of 1,700 tons of sediment delivery to Mink Creek, or a cumulative 35% reduction in sediment delivery over the life of the project.

Principal BMPs targeted for this project include animal waste facilities, grade stabilization structures, terraces, buffer strips, pasture management, livestock exclusion from critical areas, and streambank stabilization. Watershed project outreach will be conducted through landowner meetings, newspaper articles, and news releases. Water quality monitoring through Upper Iowa University will continue. Section 319 funds will be used to support a project coordinator and associated costs, and financial incentives for the BMPs.

- **Water Quality in Rathbun Lake: BMPs for Targeted Sub-Watersheds 2007, Wayne County, $400,000--**This contract will support a three-year project extension of an existing project that will target four new subwatersheds in the Rathbun Lake watershed in southern Iowa, cosponsored by the Wayne SWCD and Rathbun Land and Water Alliance. The 11,000-acre Rathbun Lake is one of the largest lakes in Iowa, is the primary source of drinking water for the Rathbun Regional Water Association, offers recreational opportunities for over one million people annually, and is the site of the future Honey Creek Resort State Park. The Iowa DNR has identified Rathbun Lake and other waterbodies in the lake's watershed as sediment and phosphorus-impacted through nonpoint source pollution. Nine water bodies in the Rathbun Lake watershed are included on Iowa's 2004 303(d) List of Impaired Water Bodies. The principal project objective is to assist landowners to apply BMPs for 5,195 acres that will reduce the annual delivery of sediment by 8,350 tons and phosphorus by 37,140 pounds to Rathbun Lake and its tributaries. A comprehensive Rathbun Lake watershed assessment and geographic information system (GIS) analysis were used to select the four new targeted subwatersheds: 1) Upper Dick Creek in Wayne County (6,500 acres); 2) Lower Dick Creek in Wayne County (6,059 acres); 3) Chariton River #4 in Lucas County (6,059 acres); and 4) Chariton River #8 in Lucas County (7,370 acres).

  The principal BMPs selected to reduce sediment and phosphorus delivery from priority land include: terraces, grade stabilization structures, and water and sediment control basins. These BMPs will be complemented by the following practices: conversion of cropland to grassland; improved grazing practices on converted land; and establishment of riparian forest buffers and filter strips. Additional activities include: GIS analysis to help plan, select, and estimate the impact of BMPs; continued water quality monitoring in Rathbun Lake and its tributaries; and multi-faceted watershed outreach targeting landowners. Section 319 funds will be used to support two project staff and associated costs, and financial incentives for the BMPs.

- **Nutting Creek Watershed Project, Fayette County, $200,000--**This contract will support a new three-year project sponsored by the Fayette SWCD. Nutting Creek is warm water stream, with a 17,246-acre watershed, located in northeast Iowa. Nutting Creek was placed on the Iowa 303(d) list in 2004 for aquatic impairment, but the impairment was removed after DNR data showed that aquatic life is no longer a limitation. However, the stream is currently listed as impaired for bacteria, based on DNR monitoring showing high levels of *E. coli* bacteria after rain events.

There are approximately 50 livestock operations in the watershed, most of which are open feedlots, with about half of them located within ¼ mile of Nutting Creek or its tributaries. It is estimated that 25 livestock producers within the ¼ mile priority area generate 38,500 tons of manure per year. A stream assessment showed that of the many tributaries feeding Nutting Creek, few have filter strips in place. In addition, livestock grazing the watershed's woodlands and pastures often have unrestricted access to the perennial streams flowing through the watershed.

To reduce bacteria loading from livestock, highest priority for BMPs will be livestock production sites within ¼ mile of Nutting Creek or its tributaries. BMPs include animal waste systems, including waste storage ponds, fabricated structures, roof runoff management, and rainwater diversions. In addition, land located within ¼ mile of Nutting Creek or its tributaries that receives manure and is eroding at a rate greater than 5 tons per acre have been classified as high priority areas. Section 319 funds will be used to support a project coordinator and financial incentives for the BMPs.

- **Walnut Creek Watershed Project, Poweshiek County, $175,000--**This contract will support a new three-year project sponsored by the Poweshiek County SWCD. Walnut Creek, located in east-central Iowa, is warm water stream with a 26,000-acre watershed draining into the Iowa River. Walnut Creek is on the 303(d) list as biologically impaired with no identified cause. A watershed development grant was used to complete a comprehensive watershed assessment for the impaired section of the stream. A sediment delivery calculation and stream assessment indicate that erosion and sediment delivery from cropland and lack of adequate buffers along the stream channel are likely causes of the impairment. Livestock access to the stream is another likely contributing factor. An estimated 23,224 tons of sediment and 30,191 pounds of phosphorus are delivered to the stream from sheet and rill erosion annually.

  Project objectives are to install BMPs on priority land to remove sediment delivery by 3,205 tons and phosphorus delivery by 4,167 pounds annually. Structural BMPs will be installed on priority land delivering more than one ton of sediment annually to Walnut Creek. Proposed BMPs include terraces, grade stabilization structures and ponds, waterways, grazing systems, buffers and filter strips, water and sediment basins, and streambank stabilization. Watershed outreach activities will also be conducted by project staff. Section 319 funds will be used to support a project coordinator and associated costs, and financial incentives for the BMPs.

- **Prairie Creek Water Quality Project, Clinton County, $200,000--**This contract will support a new three-year project sponsored by the Clinton SWCD. Prairie Creek, located in eastern Iowa, is a warm water stream, with a 34,581-acre watershed that outlets directly to the Maquoketa River. The stream is on the 303(d) list due to low biotic index. This watershed is one of six sub-watersheds that contribute the highest levels of suspended solids and nutrients to the Maquoketa River and to Pool 13 of the Mississippi River. A GIS watershed assessment showed that 7,545 acres of priority land deliver sediment to Prairie Creek at greater than one ton per acre annually, for a total of 12,443 tons (or 55% of the annual sediment delivery) to the stream.

The principal project objective is to help landowners apply BMPs on priority land that will reduce sediment delivery by 30% or 3,733 tons and reduce phosphorus loading by 4,853 pounds over the project life. BMPs installed on priority lands will include ponds, water and sediment basins, and grass waterways. Stream corridor BMPs will include livestock exclusion from the stream, conversion of riparian row crop acreage to forest buffer/filter strips, and streambank stabilization. Watershed outreach activities will include personal contacts, field days, newsletters, press releases and radio spots. Section 319 funds will be used to support financial incentives for BMPs.

- **Union Grove Lake Nonpoint Source Watershed Project**, **Tama County, $175,000**--This contract will support a new three-year project sponsored by the Tama SWCD. Union Grove Lake, located in central Iowa, is a 105-acre state park lake within a 6,834-acre watershed. The lake is on the 303(d) list for turbidity, aesthestically objectionable algae blooms, and nuisance algal species (blue-green algae). Class A (primary contact) recreational uses are assessed as not supported. Iowa DNR has identified Union Grove Lake as one of its 35 priority lakes for restoration. Impairments of lake water quality include sedimentation and excess phosphorus and nitrogen (ammonia). Estimated sediment delivery to the lake is 2,755 tons per year, predominantly from row crop land use, and phosphorus delivery is 4,600 pounds per year. A 57% reduction in total phosphorus is needed to meet the lake concentration target.

  Project goals are to install BMPs to reduce sediment and phosphorus delivery by 57%, reduce livestock access to streams in the watershed by 30%, and eliminate runoff from open feedlots by 50%. A stream assessment will be completed in year one of the project. BMPs will include: grade stabilizations structures, water and sediment control basins, terraces, grass waterways, wetlands, stream corridor protection, livestock exclusion fencing, and streambank restoration. Watershed outreach activities will include public meetings, newsletters, press releases, and construction of an educational kiosk at the lake. Section 319 funds will be used to support financial incentives for BMPs.

- **Prairie Rose Lake Water Quality Project, Shelby County, $185,000--**This contract will support a new three-year project sponsored by the Shelby SWCD. Prairie Rose Lake, located in western Iowa, is a 218-acre state park lake within a 4,642-acre watershed. The lake is on the 303(d) list for objectional conditions primarily due to algae. Prairie Rose Lake is one of the DNR's 35 priority lakes for restoration. Private land use in the lake's watershed is dominated by row crop production. Total sediment delivery to the lake is 1,725 tons per year, and total phosphorus loading is 570 pounds per year.

  The principal project objectives are to install BMPs that will reduct sediment delivery by 75% and phosphorus delivery by 75%. Secton 319 funds will be used for financial incentives to build 2 grade stabilizations structures, a water and sediment control basin, and 2 wetlands in priority areas.

- **Littlefield Lake Nonpoint Source Watershed Project, Audubon County, $230,000--**This contract will support a new two-year project sponsored by the Audubon SWCD. Littlefield Lake, located in western Iowa, is a 58-acre county park lake within a 2,442-acre watershed. DNR assessed the Class A (primary contact recreation) as partially supporting due to poor water clarity and bluegreen algal blooms, resulting from nonpoint sources of sediment and

phosphorus. A watershed assessment and sheet/rill models have been completed. Annual sediment delivery is 945 tons per year, and total phosphorus loading is 1,229 pounds per year.

Project objectives are to install BMPs to reduce sediment loading by 60% to 318 tons per year and reduce phosphorus loading to 414 pounds per year. Proposed BMPs include terraces, waterways, grade stabilization structures, contour buffer strips, and filter strips. Section 319 funds will be used to support a project coordinator and to provide financial incentives for BMPs.

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